

Please replace the paragraph on page 27, commencing at line 27, with the following paragraph:

C8 pCY214 (cm^R) contains the *E. coli* *birA* (biotin ligase) gene under the *ara* promoter and is described in Chapman-Smith, *et al.*, *Biochem. J.* (1994) 302:881-887. The PCC protein and *pcc* gene are described in Rodriguez, *et al.*, *Microbiol.* (1999) 145:3109-3119.

In the Claims

Please delete claims 2-9, 24-29, and 42-52 without prejudice.

Please replace claim 1 with the following claim:

C9 1. (Amended) A recombinant *E. coli* host cell which is genetically modified for synthesis of a polyketide,
wherein said modification comprises
incorporation of a propionyl CoA carboxylase (*pcc*) expression system wherein said *pcc* expression system produces an enzyme capable of synthesizing 2S-metnylmalonyl CoA,
incorporation of at least one expression system for a modular polyketide synthase (PKS),
and
incorporation of at least one expression system for a phosphopantetheinyl transferase.

Please add the following new claims

53. (New) The host cell as in claim 1
wherein the *pcc* expression system comprises the *pccB* and *accA2* genes from
S. coelicolor.

C10 54. (New) The host cell as in claim 53
wherein the host cell further comprises an expression system for biotin ligase.

55. (New) The host cell as in claim 1
wherein the expression system for biotin ligase is the *birA* gene from *E. coli*.

56. (New) The host cell as in claim 1
wherein the phosphopantetheinyl transferase expression system comprises the *sfp* gene
from *Bacillus subtilis*.

57. (New) The host cell as in claim 1
wherein the cell has ~~no~~ functional endogenous pathway for propionate catabolism.

58. (New) The host cell as in claim 57
wherein the cell's *prpAD* operon is disabled.

59. (New) The host cell as in claim 1
wherein the PKS is DEBS.

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60. (New) The host cell of claim 1 wherein the polyketide is 6-dEB.

61. (New) A recombinant *Streptomyces* host cell which is genetically modified for
enhanced synthesis of a polyketide,
wherein said modification comprises incorporation of a *matB* gene.

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62. (New) The host cell as in claim 61
wherein modification includes incorporation of a *matC* gene.

63. (New) The host cell as in claim 62
wherein the modification further comprises incorporation of a *matA* gene.

64. (New) The host cell as in claim 61
wherein said modification further comprises incorporation of at least one expression
system for a modular polyketide synthase (PKS).

65. (New) The host cell as in claim 61
wherein the host cell is *Streptomyces coelicolor*.

66. (New) The host cell as in claim 61
wherein the *mat* genes is from *Rhizobium trifoli*.

67. (New) The host cell as in claim 61
wherein the PKS is DEBS.

68. (New) The cell as in claim 61 wherein the polyketide is 6-dEB.

69. (New) A recombinant *E. coli* host cell which is genetically modified for synthesis of a polyketide,
wherein said modification comprises
incorporation of a *matB* gene, and
incorporation of at least one expression system for a modular polyketide synthase (PKS), and
incorporation of at least one expression system for a phosphopantetheinyl transferase.

70. (New) The host cell of claim 69
wherein the modification further comprises incorporation of a *matC* gene.

71. (New) The host cell as in claim 70
wherein the modification further comprises incorporation of a *matA* gene.

72. (New) The host cell as in claim 69
wherein the *mat* gene is from *Rhizobium trifoli*.

73. (New) The host cell as in claim 69
wherein the PKS is DEBS.

74. (New) The host cell as in claim 69 wherein the polyketide is 6-dEB.

75. (New) A method to produce a polyketide which method comprises culturing the cells of claim 1 under conditions wherein said polyketide is produced.

76. (New) A method to assess the results of a procedure effecting modification of polyketide synthase genes according to claim 1, resulting in a mixture of said modified genes which method comprises

transfecting a culture of *E. coli* of claim 1 with said mixture of modified genes,
culturing individual colonies of said transformed *E. coli*, and
assessing each colony for polyketide production

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77. (New) The method of claim 75 which further includes providing a substrate, wherein the substrate is of the formula $R_2C(COOH)_2$ wherein one R is H, methyl or ethyl and the other is H.
